Canadian Journal of Remote Sensing Journal canadien de télédétection

Contents / Sommaire Volume 29, 2003

February	1	£5.	PRI ON
repruary	//	II (C)	mer

Special Collection: 23rd Canadian Symposium on Remote Sensing – 10 ^e Congrès de l'Association québécoise de télédétection	
Collection spéciale : 23 ^e Symposium canadien de télédétection – 10 ^e Congrès de l'Association québécoise de télédétection	
Preface / Préface	ii
Qiaofeng Zhang and Jinfei Wang A rule-based urban land use inferring method for fine-resolution multispectral imagery	1
Yong Du, Paris W. Vachon, and Joost J. van der Sanden Satellite image fusion with multiscale wavelet analysis for marine applications: preserving spatial information and minimizing artifacts (PSIMA)	14
Sepideh Arzandeh and Jinfei Wang Monitoring the change of Phragmites distribution using satellite data	24
Thierry Toutin Compensation par segment et bloc d'images panchromatiques et multi-bandes de SPOT	36
Andrew Davidson and Ferenc Csillag A comparison of nested analysis of variance (ANOVA) and variograms for characterizing grassland spatial structure under a limited sampling budget	43
Simona Apostol, Alain A. Viau, Nicolas Tremblay, Jean-Marie Briantais, Shiv Prasher, Léon-Etienne Parent, and Ismael Moya Laser-induced fluorescence signatures as a tool for remote monitoring of water and nitrogen stresses in plants	57
Aubert Michaud, Isabelle Landry, Camille Desmarais et Charles Savoie Structures et relations spatiales entre les images aériennes multi-spectrales, les propriétés du sol et les rendements de grandes cultures	66
Xulong Peng, Jinfei Wang, Mirta Raed, and Jorge Gari Land cover mapping from RADARSAT stereo images in a mountainous area of southern Argentina	75
Monique Bernier, Hosni Ghedira, Yves Gauthier, Ramata Magagi, Rébecca Filion, Danielle De Sève, Taha B.M.J. Ouarda, Jean-Pierre Villeneuve et Pierre Buteau Détection et classification de tourbières ombrotrophes du Québec à partir d'images RADARSAT-1	88
Regular issue section Section régulière du numéro	
R.A. Neville, J. Lévesque, K. Staenz, C. Nadeau, P. Hauff, and G.A. Borstad Spectral unmixing of hyperspectral imagery for mineral exploration: comparison of results from SFSI and AVIRIS	99
F. Paganelli, E.C. Grunsky, J.P. Richards, and R. Pryde Use of RADARSAT-1 principal component imagery for structural mapping: a case study in the Buffalo Head Hills area, northern central Alberta, Canada	111
April / avril	
Special issue: Synergistic utilization of Landsat-7 Numéro spécial: L'utilisation du potentiel synergétique des données Landsat-7	
Preface / Préface	ii
J.A. Barsi, J.R. Schott, F.D. Palluconi, D.L. Helder, S.J. Hook, B.L. Markham, G. Chander, and E.M. O'Donnell Landsat TM and ETM+ thermal band calibration	141
J. Cihlar, R. Latifovic, J. Beaubien, B. Guindon, and M. Palmer Thematic mapper (TM) based accuracy assessment of a land cover product for Canada derived from SPOT VEGETATION (VGT) data	154
J. Cihlar, B. Guindon, J. Beaubien, R. Latifovic, D. Peddle, M. Wulder, R. Fernandes, and J. Kerr From need to product: a methodology for completing a land cover map of Canada with Landsat data	171
Patrick Canalsini, Serge Andréfouët, Cédric Rion, and Claude Pavri. A comparison of Landsat FTM+ SPOT HRV Ikonos	

ASTER, and airborne MASTER data for coral reef habitat mapping in South Pacific islands

187

Canadian Journal of Remote Sensing Journal canadien de télédétection

Contents / Sommaire Volume 29, 2003

February	1	£5.	PRI ON
repruary	//	II (C)	mer

Special Collection: 23rd Canadian Symposium on Remote Sensing – 10 ^e Congrès de l'Association québécoise de télédétection	
Collection spéciale : 23 ^e Symposium canadien de télédétection – 10 ^e Congrès de l'Association québécoise de télédétection	
Preface / Préface	ii
Qiaofeng Zhang and Jinfei Wang A rule-based urban land use inferring method for fine-resolution multispectral imagery	1
Yong Du, Paris W. Vachon, and Joost J. van der Sanden Satellite image fusion with multiscale wavelet analysis for marine applications: preserving spatial information and minimizing artifacts (PSIMA)	14
Sepideh Arzandeh and Jinfei Wang Monitoring the change of Phragmites distribution using satellite data	24
Thierry Toutin Compensation par segment et bloc d'images panchromatiques et multi-bandes de SPOT	36
Andrew Davidson and Ferenc Csillag A comparison of nested analysis of variance (ANOVA) and variograms for characterizing grassland spatial structure under a limited sampling budget	43
Simona Apostol, Alain A. Viau, Nicolas Tremblay, Jean-Marie Briantais, Shiv Prasher, Léon-Etienne Parent, and Ismael Moya Laser-induced fluorescence signatures as a tool for remote monitoring of water and nitrogen stresses in plants	57
Aubert Michaud, Isabelle Landry, Camille Desmarais et Charles Savoie Structures et relations spatiales entre les images aériennes multi-spectrales, les propriétés du sol et les rendements de grandes cultures	66
Xulong Peng, Jinfei Wang, Mirta Raed, and Jorge Gari Land cover mapping from RADARSAT stereo images in a mountainous area of southern Argentina	75
Monique Bernier, Hosni Ghedira, Yves Gauthier, Ramata Magagi, Rébecca Filion, Danielle De Sève, Taha B.M.J. Ouarda, Jean-Pierre Villeneuve et Pierre Buteau Détection et classification de tourbières ombrotrophes du Québec à partir d'images RADARSAT-1	88
Regular issue section Section régulière du numéro	
R.A. Neville, J. Lévesque, K. Staenz, C. Nadeau, P. Hauff, and G.A. Borstad Spectral unmixing of hyperspectral imagery for mineral exploration: comparison of results from SFSI and AVIRIS	99
F. Paganelli, E.C. Grunsky, J.P. Richards, and R. Pryde Use of RADARSAT-1 principal component imagery for structural mapping: a case study in the Buffalo Head Hills area, northern central Alberta, Canada	111
April / avril	
Special issue: Synergistic utilization of Landsat-7 Numéro spécial: L'utilisation du potentiel synergétique des données Landsat-7	
Preface / Préface	ii
J.A. Barsi, J.R. Schott, F.D. Palluconi, D.L. Helder, S.J. Hook, B.L. Markham, G. Chander, and E.M. O'Donnell Landsat TM and ETM+ thermal band calibration	141
J. Cihlar, R. Latifovic, J. Beaubien, B. Guindon, and M. Palmer Thematic mapper (TM) based accuracy assessment of a land cover product for Canada derived from SPOT VEGETATION (VGT) data	154
J. Cihlar, B. Guindon, J. Beaubien, R. Latifovic, D. Peddle, M. Wulder, R. Fernandes, and J. Kerr From need to product: a methodology for completing a land cover map of Canada with Landsat data	171
Patrick Canalsini, Serge Andréfouët, Cédric Rion, and Claude Pavri. A comparison of Landsat FTM+ SPOT HRV Ikonos	

ASTER, and airborne MASTER data for coral reef habitat mapping in South Pacific islands

187

David Palandro, Serge Andréfouët, Frank E. Muller-Karger, Phillip Dustan, Chuanmin Hu, and Pamela Hallock Detection of changes in coral reef communities using Landsat-5 TM and Landsat-7 ETM+ data	201
Serge Andréfouët, Julie A. Robinson, Chuanmin Hu, Gene C. Feldman, Bernard Salvat, Claude Payri, and Frank E. Muller-Karger Influence of the spatial resolution of SeaWiFS, Landsat-7, SPOT, and International Space Station data on estimates of landscape parameters of Pacific Ocean atolls	210
James E. Vogelmann and Thomas P. DeFelice Characterization of intra-annual reflectance properties of land cover classes in southeastern South Dakota using Landsat TM and ETM+ data	219
Limin Yang, Chengquan Huang, Collin G. Homer, Bruce K. Wylie, and Michael J. Coan An approach for mapping large- area impervious surfaces: synergistic use of Landsat-7 ETM+ and high spatial resolution imagery	230
Richard Fernandes, Chris Butson, Sylvain Leblanc, and Rasim Latifovic Landsat-5 TM and Landsat-7 ETM+ based accuracy assessment of leaf area index products for Canada derived from SPOT-4 VEGETATION data	241
C.D. Holifield, S. McElroy, M.S. Moran, R. Bryant, T. Miura, and W.E. Emmerich Temporal and spatial changes in grass-land transpiration detected using Landsat TM and ETM+ imagery	259
K.J. Ranson, K. Kovacs, G. Sun, and V.I. Kharuk Disturbance recognition in the boreal forest using radar and Landsat-7	271
V.I. Kharuk, K.J. Ranson, V.V. Kuz'michev, and S.T. Im Landsat-based analysis of insect outbreaks in southern Siberia	286
June / juin	
Special collection: Measurement and use of leaf area index in monitoring vegetated ecosystems Collection spéciale : La mesure et l'utilisation de l'indice foliaire pour l'étude des écosystèmes végétaux	
Preface / Préface	ii
R.J. Hall, R.A. Fernandes, E.H. Hogg, J.P. Brandt, C. Butson, B.S. Case, and S.G. Leblanc Relating aspen defoliation to changes in leaf area derived from field and satellite remote sensing data	299
Miina Rautiainen, Pauline Stenberg, Tiit Nilson, Andres Kuusk, and Heikki Smolander Application of a forest reflectance model in estimating leaf area index of Scots pine stands using Landsat-7 ETM reflectance data	314
Evan D. Seed and Douglas J. King Shadow brightness and shadow fraction relations with effective leaf area index: importance of canopy, closure and view angle in mixedwood boreal forest	324
Dominique Guyon, Paul Berbigier, Gaston Courrier, Jean-Pierre Lagouarde et Patrick Moreau Estimation du LAI dans un écosystème cultivé de pin maritime à partir de mesures de fractions de trouées directionnelles	336
L. Eklundh, K. Hall, H. Eriksson, J. Ardö, and P. Pilesjö Investigating the use of Landsat thematic mapper data for estimation of forest leaf area index in southern Sweden	349
P. Stenberg, T. Nilson, H. Smolander, and P. Voipio Gap fraction based estimation of LAI in Scots pine stands subjected to experimental removal of branches and stems	363
O. Bouriaud, K. Soudani, and N. Bréda Leaf area index from litter collection: impact of specific leaf area variability within a beech stand	371
Jean-Yves Pontailler, Graham J. Hymus, and Bert G. Drake Estimation of leaf area index using ground-based remote sensed NDVI measurements: validation and comparison with two indirect techniques	381
Jean-Michel N. Walter, Richard A. Fournier, Kamel Soudani, and Emmanuel Meyer Integrating clumping effects in forest canopy structure: an assessment through hemispherical photographs	388
R.J. Hall, D.P. Davidson, and D.R. Peddle Ground and remote estimation of leaf area index in Rocky Mountain forest stands, Kananaskis, Alberta	411
August / août	
Editorial / Éditorial	ii
Mui-How Phua and Hideki Saito Estimation of biomass of a mountainous tropical forest using Landsat TM data	429
David Flanders, Mryka Hall-Beyer, and Joan Pereverzoff Preliminary evaluation of eCognition object-based software for cut block delineation and feature extraction	441
M. Mueller, K. Segl, and H. Kaufmann Extracting characteristic segments in high-resolution panchromatic imagery as basic information for object-driven image analysis	453
Derek Rogge, C. Beaumont-Smith, and N.M. Halden Application of data integration for deformation potential mapping using remotely acquired data sets within the Lynn Lake Greenstone Belt, northwestern Manitoba, Canada	458

© 2003 CASI

C-2

Maurizio Migliaccio, Maurizio Sarti, and Stefania Marsili C-band scatterometer and wind-field retrieval	472
Fabio Dell'Acqua, Paolo Gamba, and Gianni Lisini Road map extraction by multiple detectors in fine spatial resolution SAR data	481
Yong Du and Paris W. Vachon Characterization of hurricane eyes in RADARSAT-1 images with wavelet analysis	491
R.D. Graetz, JM. Grégoire, J.L. Lovell, E.A. King, S.K. Campbell, and A. Tournier of burned areas in tropical Australian savannas using medium-resolution satellite data	499
J. Barlow, Y. Martin, and S.E. Franklin Detecting translational landslide scars using segmentation of Landsat ETM+ and DEM data in the northern Cascade Mountains, British Columbia	510
Yifang Ban Synergy of multitemporal ERS-1 SAR and Landsat TM data for classification of agricultural crops	518
October / octobre	
Special Issue: Lidar remote sensing of forest structure and terrain	
Numéro spécial : La télédétection lidar de la structure de la forêt et du terrain	
Preface / Préface	11
Stephen E. Reutebuch, Robert J. McGaughey, Hans-Erik Andersen, and Ward W. Carson Accuracy of a high-resolution lidar terrain model under a conifer forest canopy	527
Michael A. Wulder and David Seemann Forest inventory height update through the integration of lidar data with segmented Landsat imagery	536
Kenton W. Todd, Ferenc Csillag, and Peter M. Atkinson Three-dimensional mapping of light transmittance and foliage distribution using lidar	544
Ralph Dowling and Arnon Accad Vegetation classification of the riparian zone along the Brisbane River, Queensland, Australia, using light detection and ranging (lidar) data and forward looking digital video	556
Sorin C. Popescu, Randolph H. Wynne, and Ross F. Nelson Measuring individual tree crown diameter with lidar and assessing its influence on estimating forest volume and biomass	564
Deanna Weller, Robert Denham, Christian Witte, Celia Mackie, and Dave Smith Assessment and monitoring of foliage projected cover and canopy height across native vegetation in Queensland, Australia, using laser profiler data	578
R.A. MacMillan, T.C. Martin, T.J. Earle, and D.H. McNabb Automated analysis and classification of landforms using high-resolution digital elevation data: applications and issues	592
J.L. Lovell, D.L.B. Jupp, D.S. Culvenor, and N.C. Coops Using airborne and ground-based ranging lidar to measure canopy structure in Australian forests	607
J. Holmgren, M. Nilsson, and H. Olsson Simulating the effects of lidar scanning angle for estimation of mean tree height and canopy closure	623
Don Leckie, François Gougeon, David Hill, Rick Quinn, Lynne Armstrong, and Roger Shreenan Combined high-density lidar and multispectral imagery for individual tree crown analysis	633
David L.A. Gaveau and Ross A. Hill Quantifying canopy height underestimation by laser pulse penetration in small-footprint airborne laser scanning data	650
Kevin Lim, Paul Treitz, Ken Baldwin, Ian Morrison, and Jim Green Lidar remote sensing of biophysical properties of toler- ant northern hardwood forests	658
December / décembre	
Special collection: Applications of remote sensing in hydrology Collection spéciale : Applications de la télédétection en hydrologie	
Note of Appreciation / Note de reconnaissance	iii
Canadian Remote Sensing Society Best Thesis Awards, 2002 / Prix de la Société canadienne de télédétection pour la meilleure thèse, 2002	iv
Preface / Préface	vi
L. Oudin, A. Weisse, C. Loumagne, and S. Le Hégarat-Mascle Assimilation of soil moisture into hydrological models for flood forecasting: a variational approach	679
Gabriel B. Senay and James Verdin Characterization of yield reduction in Ethiopia using a GIS-based crop water balance model	687

A. Şensoy, A.E. Tekeli, A.A. Şorman, and A.Ü. Şorman Simulation of event-based snowmelt runoff hydrographs based on snow depletion curves and the degree-day method	693
Inge Sandholt, Jens Andersen, Gorm Dybkjær, Lotte Nyborg, Medou Lô, Kjeld Rasmussen, Jens-Christian Refsgaard, Karsten H. Jensen, and Assize Touré Integration of earth observation data in distributed hydrological models: the Senegal River basin	701
D. Aubert, C. Loumagne, L. Oudin, and S. Le Hégarat-Mascle Assimilation of soil moisture into hydrological models: the sequential method	711
Jessika Töyrä, Alain Pietroniro, Christopher Hopkinson, and William Kalbfleisch Assessment of airborne scanning laser altimetry (lidar) in a deltaic wetland environment	718
C. Puech and P. Gineste Radar imagery and saturated areas: decreasing model equifinality	729
L. Borgniet, V. Estupina, C. Puech, and D. Dartus Methodologies for analyzing intrinsic and required DEM accuracy for hydrological applications of flash floods	734
Dominique Courault, Pierre Lacarrère, Philippe Clastre, Patrice Lecharpentier, Frédéric Jacob, Olivier Marloie, Laurent Prévot, and Albert Olioso Estimation of surface fluxes in a small agricultural area using the three-dimensional atmospheric model Meso-NH and remote sensing data	74
Regular issue section Section régulière du numéro	
Pierre Bugnet, François Cavayas et Langis Gagnon Vers la cartographie automatisée des surfaces boisées en milieu urbanisé fondée sur la texture d'images IKONOS panchromatiques : le cas de la Région métropolitaine de Montréal	75:
J.L. Lovell, R.D. Graetz, and E.A. King Compositing AVHRR data for the Australian continent: seeking best practice	77
T. Thuy Vu, Mitsuharu Tokunaga, and Fumio Yamazaki Wavelet-based extraction of building features from airborne laser scanner data	78.
Ilan Koren, Joachim H. Joseph, and Peter Israelevich Detection of dust plumes and their sources in northeastern Libya	79
Instructions to Authors / Instructions aux auteurs	I-
Author Index for Volume 29 / Index des auteurs pour le volume 29	AI-
Contents for Volume 29 / Sommaire pour le volume 29	C-